

REMARKS

The Office Action dated September 16, 2005 has been received and carefully noted. The above amendments to claims 6, 8, 14, 21, 27, and 30, and the following remarks, are submitted as a full and complete response thereto. Claims 6, 8, 14, 21, 27, and 30 have been amended to improve the clarity of the features recited therein. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-31 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 2, claims 1 and 2 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Application No. 2002/065785 to Tsuda ("Tsuda") in view of U.S. Application No. 2003/0119501 to Kim ("Kim"). The Office Action took the position that Tsuda and Kim disclose all the aspects of claims 1 and 2. The rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 2, 3, and 24-26 are dependent, recites a method for determining an address of a network node in a net-work where the subscriber currently locates in a mobile communication system. The method includes maintaining in the mobile communication system subscriber's location information, and determining on the basis of the subscriber's location information the address of the network node.

As will be discussed below, Tsuda and Kim fail to disclose or suggest the elements of any of the presently pending claims.

Tsuda generally describes a function for carrying out AAA processing and authentication and accounting processes carried out between AAA function (AAAM) on a mobile node and a visited network or the mobile node and a home network. See paragraph [0054]. When the mobile node is connected to the visited network, for example, the mobile node 1010 transmits a registration request to the home agent or the AAAH server according a Mobile IP protocol. See Fig. 1 and paragraphs [0061]-[0065]. However, Tsuda describes that requests are sent to the AAAH server, i.e., an AAA server in the home network. There is no need in Tsuda to determine “on the basis of a subscriber’s location information the address of the network node,” as recited in independent claim 1.

Specifically, Tsuda describes that the address of the AAAH is determined from identification information called NAI (Network Access Identifier). See paragraphs [0086] and [0089]. However, Tsuda does not teach or suggest a need of determining the address of the network node based on subscriber’s location information. Accordingly, the Office Action correctly recognized that Tsuda fails to teach the determining step recited in independent claim 1. Accordingly, the Office Action relied on Kim as teaching such recitation.

Kim generally describes how to create and update home zone information of a subscriber. FIG. 5 illustrates a base station system parameter database that stores every

base station's inherent ID (Bts_id), location information of each base station, and so forth. See paragraph [0040]. The base stations located within the designated distance from the subscriber's residence regard or decide all sectors as a service sector. The exception range in Kim is a value necessary for establishing the designated distance through which the base stations made the decision aforementioned. Kim, thus, describes how to create and update home zone information of a subscriber. The base station ID in the home zone information remains the same regardless where the subscriber locates. Kim also provides to select subscribers under the influence, those subscribers living within a designated distance centering certain base stations.

Accordingly, in view of the description provided in Kim, this reference describes that the stored information does not depend on location information of the subscriber. Kim also does not teach or suggest determining, on the basis of the subscriber's location information, the address of the network node. The base station system parameter database storing location information of each base station alone does not teach or suggest a determination of an address of a network node.

In view of the descriptions of Tsuda and Kim, Kim does not cure the deficiencies of Tsuda. A combination of Tsuda and Kim would fail to teach or suggest all the recitations of independent claim 1. Instead, the combination of Tsuda and Kim would simply provide that mobile IP network could have home zone information and provide home zone services in a subnet using an address of AAAH. It would also include a database storing location information of each base station. However, there is no teaching

or suggestion in the combination of Tsuda and Kim providing, “determining on the basis of the subscriber’s location information the address of the network node,” as recited in independent claim 1.

Accordingly, in view of the foregoing, it is respectfully requested that independent claim 1 and related dependent claim 2 be allowed.

In the Office Action, at page 4, claims 3-5, 9, 21-23, and 25 were rejected under 35 U.S.C. § 103 as being unpatentable over Tsuda, Kim, and further in view of U.S. Application No. 2002/0145561 to Sandhu et al. (“Sandhu”). The Office Action took the position that Tsuda, Kim, and Sandhu disclose all the aspects of independent claims 4 and 21 and related dependent claims. The rejection is traversed and reconsideration is requested.

Independent claim 4, upon which claim 5 is dependent, recites a method for determining a network node address in a mobile communication system, the network node being in a location network of a subscriber. The method includes receiving in the mobile communication system a message from subscriber’s user equipment, the message indicating subscriber’s location information, and determining on the basis of the subscriber’s location information the address of the network node.

Independent claim 6, upon which claims 7-13 and 20 are dependent, recites a method for transmitting, to subscriber’s user equipment, information required for a certificate issuance service in a mobile communication system. The method includes

authenticating the subscriber, and transmitting to the user equipment at least part of the information required for obtaining the certificate during the subscriber authentication.

Independent claim 21, upon which claims 22-23 are dependent, recites a mobile communication system comprising at least user equipment and a network comprising at least a network node. The system is configured to determine a network node address on the basis of location information of user equipment, wherein the network node is in a location network of the user equipment.

Dependent claims 3 and 35 depend from independent claim 1, dependent claim 5 depends from independent claim 4, dependent claim 9 depends from independent claim 6, and dependent claims 22 and 23 depend from independent claim 21. Independent claim 4 recites, “determining on the basis of the subscriber’s location information the address of the network node,” and independent claim 21 recites, “the system being configured to determine a network node address on the basis of location information of user equipment, wherein the network node is in a location of the user equipment.” Because independent claims 4 and 21 include similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to similar portions of Tsuda and Kim to reject independent claims 4 and 21, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claims 4 and 21.

Further, because the combination of Tsuda, Kim, and Sandhu must teach, individually or combined, all the recitations of the base claim and any intervening claims

of dependent claims 3 and 25, the arguments presented above supporting the patentability of independent claim 1 over Tsuda and Kim are incorporated herein.

As will be discussed below, Tsuda, Kim, and Sandhu fail to disclose or suggest the elements of any of the presently pending claims.

Sandhu generally describes a mobile unit regularly obtaining its location through a location-determining technology, such as GPS, and sending the location to a service provider computer. See abstract. The service provider computer maintains a database of the current location of all the mobile units, and provides the location of the mobile units to each of the mobile units.

However, Sandhu does not cure the deficiencies of Tsuda and Kim. Sandhu limits its description of using a plurality of mobile units to locate one another using multiple satellites (i.e., GPS). Similarly to Tsuda and Kim, Sandhu does not broach the concept of determining, based on the location of the mobile units, the address of a network node. A combination of Tsuda, Kim, and Sandhu would fail to teach or suggest determining or to determine “on the basis of the subscriber’s location information the address of the network node,” as recited in independent claims 1, 4, and 21.

In view of the description provided in the references, a combination of Tsuda, Kim, and Sandhu would describe that mobile IP networks could have home zone information and provide home zone services in the subnet using the address of AAAH and that mobile user terminals could obtain location information from GPS and forward such information to a known address wherefrom location information may be delivered to

indicate recipients. Accordingly, the combination of Tsuda, Kim, and Sandhu would fail to teach or suggest determining or to determine “on the basis of the subscriber’s location information the address of the network node,” as recited in independent claims 1, 4, and 21.

Referring to independent claim 6, a combination of Tsuda, Kim, and Sandhu would fail to teach or suggest, “transmitting to the user equipment at least part of the information required for obtaining the certificate during the subscriber authentication,” as recited in independent claim 6. None of the references provide transmitting at least part of the information for obtaining a certificate issuance service. Tsuda simply mentions that a certificate authority exists (chapter 0186), but nothing more. The particular features recited in independent claim 6 are not described in Tsuda, Kim, and Sandhu.

Further, the various dependent claims recite important features related to the specific activities performed. For example, dependent claim 3 recites, “receiving in the mobile communication system a message from subscriber’s user equipment, the message including subscriber’s location information; checking whether or not the location information in the message corresponds to the location information maintained in the system; and using the maintained location information if it does not correspond to the location information in the message. On page 10 of the office action, it was correctly recognized that Tsuda is silent as to teaching checking whether or not the location information in the message corresponds to the location information maintained in the system and none of the other cited references disclose checking whether an address in a

message corresponds to an address maintained in the systems. As a matter of fact, none of the cited references, individually or combined, teach that it is checked whether or not an address in a message corresponds to a determined address, thus, supporting the patentable subject matter recited in dependent claim 3.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 1, 4, 6, and 21 and related dependent claims be allowed.

In the Office Action, at page 9, claims 24 and 26 were rejected under 35 U.S.C. § 103 as being unpatentable over Tsuda, Kim, Sandhu and further in view of U.S. Application No. 2003/0092425 to Okazaki et al. ("Okazaki"). The Office Action took the position that Tsuda, Kim, Sandhu, and Okazaki disclose all the aspects of dependent claims 24 and 26 and related dependent claims. The rejection is traversed and reconsideration is requested.

Dependent claims 24 and 26 depend from independent claim 1. Dependent claim 24 recites, "receiving in the mobile communication system a message from subscriber's user equipment, the message including subscriber's location information; checking whether or not the location information in the message corresponds to the location information maintained in the system; and if it does not correspond to the location information in the message, sending an error indication by using the maintained location information." Dependent claim 26 recites, "receiving in the mobile communication system a message from subscriber's user equipment, the message including subscriber's

location information; checking whether or not the location information in the message corresponds to the location information maintained in the system; and if it does not correspond to the maintained location information, sending an error indication by using the location information in the message.” Because the combination of Tsuda, Kim, Sandhu, and Okazaki must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 24 and 26, the arguments presented above supporting the patentability of independent claim 1 over Tsuda, Kim, and Sandhu are incorporated herein.

Okazaki generally describes a method for security access to mobile IP network and selecting one mobility agent when the mobile node cannot authenticate any of the Advertisements messages it received. See paragraph [0013]. Okazaki provides that a certificate is always requested from the home administrative server responsible for authentication of a mobile node, but Okazaki is silent as to teaching or suggesting a certificate issuance service. In other words, Okazaki describes that the mobile node contains information needed to obtain a certificate, and, therefore, this information is not transmitted or received.

In view of the description provided in the references, a combination of Tsuda, Kim, Sandhu, and Okazaki would describe that mobile IP networks could have home zone information and provide home zone services in the subnet using the address of AAAH and that mobile user terminals could obtain location information from GPS and forward such information to a known address wherefrom location information may be

delivered to indicate recipients, where a certificate is always requested from the home administrative server responsible for authentication of a mobile node. Accordingly, the combination of Tsuda, Kim, Sandhu, and Okazaki would fail to teach or suggest determining or to determine “on the basis of the subscriber’s location information the address of the network node,” as recited in independent claim 1.

Accordingly, in view of the foregoing, it is respectfully requested that independent claim 1 and related dependent claims 24 and 26 be allowed.

REJECTION UNDER 35 U.S.C. § 102:

In the Office Action, at page 12, claims 6-8, 10-20, and 27-31 were rejected under 35 U.S.C. § 102 as being anticipated by U. S. Application No. 2002/0065785 to Tsuda (“Tsuda”). The Office Action took the position that Tsuda describes all the recitations of independent claims 6, 14, 27, 28, and 30 and related dependent claims. This rejection is traversed and reconsideration is requested.

Independent claim 14, upon which claims 15-19 are dependent, recites a method for transmitting to subscriber’s user equipment information required for a certificate issuance service in a mobile communication system. The method includes authenticating the subscriber, receiving a message relating to the service, and transmitting to the user equipment in a reply message at least part of the information required for obtaining the certificate in response to the received message.

Independent claim 27 recites a method for transmitting to subscriber's user equipment information required for a certificate issuance service in a mobile communication system. The method includes authenticating the subscriber, and transmitting to the user equipment at least part of the information using an authenticated channel, the at least part of the information containing information required for obtaining the certificate.

Independent claim 28, upon which claim 29 is dependent, recites a network node in a mobile communication system, wherein the network node (AU-H) is arranged to determine an address of another network node required for providing a service for a subscriber on the basis of subscriber's location information.

Independent claim 30, upon which claim 31 is dependent, recites a user equipment in a mobile communication system, wherein the user equipment (UE) is arranged to receive at least part of information required for a certificate issuance service in a location network of the user equipment after the user equipment has been authenticated. The at least part of the information contains information required for obtaining the certificate.

As will be discussed below, Tsuda fails to disclose or suggest the elements of any of the presently pending claims.

Independent claim 28 recites, "determine an address of another network node required for providing a service for a subscriber on the basis of subscriber's location information." Because independent claim 28 include similar claim features as those recited in independent claim 1, although of different scope, and because the Office

Action refers to similar portions of Tsuda to reject independent claim 28, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 28.

As previously set forth, Tsuda generally describes a mobile node device according to Mobile IP protocol transmits an authentication and accounting request for requesting a desired accounting service at an AAAH server device according to a prescribed AAA protocol which is provided at a home network of the mobile node device. See abstract. Then, the AAAH server device carries out a processing for providing the desired accounting service according to the authentication and accounting request. In Tsuda, Fig. 6 shows a case where the occurred request is the first registration request at the subnet to which the mobile node 1010 is connected by roaming through the network (step S1 YES), a registration request packet with the AAAH server 1012 as a final destination is transmitted by the Mobile IP processing unit 1101 (step S2). FIG. 10 of Tsuda shows parts related to the registration request.

However, Figs. 6 or 10 of Tsuda, or anywhere else in this reference, there is no teaching or suggestion of “a method for transmitting, to subscriber’s user equipment, information required for a certificate issuance service in a mobile communication system,” as recited in independent claims 6, 14, and 27. Tsuda does not provide a description of the authentication and accounting process described therein that would teach or suggest a person of ordinary skill in the art to provide for a method to transmit the information required for a certificate issuance service. Also, there is no teaching or

suggestion of, “the user equipment (UE) is arranged to receive at least part of the information required for a certificate issuance service in a location network of the user equipment after the user equipment has been authenticated,” as recited in independent claim 30.

The authentication and accounting processes carried out between the AAA processing function (AAAM) on the mobile node and the AAA processing mechanisms (AAAF) at the visited network or between the AAA processing function (AAAM) on the mobile node and the AAA processing mechanism (AAAH) at the home network are silent as to teaching or suggesting, “transmitting to the user equipment at least part of the information required for obtaining the certificate during the subscriber authentication,” as recited in independent claims 6 and 14. Tsuda is silent as to obtaining a certificate during authentication. Similarly, Tsuda fails to teach or suggest, “transmitting to the user equipment at least part of the information using an authenticated channel, said at least part of the information containing information required for obtaining the certificate,” as recited in independent claim 27, and “said at least part of the information containing information required for obtaining the certificate,” as recited in independent claim 30.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 6, 14, 27, 28, and 30 and related dependent claims be allowed.

CONCLUSION:


In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-31 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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Enclosures: Petition for Extension of Time
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